REMARKS

Applicant is in receipt of the Office Actions mailed April 30, 2003 and August 31, 2003.

The Office Action objected to Figures 1 and 2 as presenting Prior Art without being labeled so. Applicant has amended Figures 1 and 2 accordingly, adding a "Prior Art" label to each, and includes substitute drawings herewith.

The Office Action objected to the algorithms cited on pages 36-39 under 37 C.F.R. 1.52 due to insufficient spacing between the lines, and further objected to an erroneous reference to a Figure in the paragraph beginning on page 1, line 25. The Specification has been amended accordingly.

Claims 2, 3, and 54 have been cancelled. Claims 1, 4-44, 47-53, 55-58 have been amended to address the cited issues. New claims 64-83 have been added. Thus, claims 1, 4-53, 55-58, and 64-83 are currently pending in the case. Further examination and reconsideration of the presently claimed application is respectfully requested.

Applicant is in the process of correcting the declaration regarding the indicated citizenship of inventor Ram Rajagopal, and will provide the corrected (supplemental) declaration as soon as it is received from the inventor, per MPEP 603, item 2.

The Office Action objected to the limitation of claims 1, 42, and 53 regarding "outputting information regarding the curve" as unclear (indefinite?), indicating that outputting "from and to what" should be specifically included in the claim limitation. However, as stated in MPEP 2173.04: "Breadth of a claim is not to be equated with indefiniteness." Applicant submits that in computer-implemented systems and methods, a person skilled in the art would understand what is meant by "outputting information", it being well known in the art that such outputting of information may be to storage, e.g., a file, to a display device, to an external system coupled to the computer implementing the system or method, and so forth. Applicant thus respectfully submits that the objection regarding this limitation is improper and respectfully requests removal of the objection regarding claims 1, 42, and 53.

35 USC 112 and Section 101 Rejections

Claims 53-58 were rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, specifically, by combining an apparatus and method steps of using the apparatus, and were also rejected under 35 U.S.C. 101 because the claimed invention was directed to non-statutory subject matter. Applicant has amended claims 53-58 to put the claims into correct form re 35 U.S.C. 112, and 101. Accordingly, removal of the rejections under 35 U.S.C. 112 and 101 is respectfully requested.

Section 102 Rejections

Claims 1, 2, 15-17, 42, 43, 53, and 54 were rejected under 35 U.S.C. 102(b) as being anticipated by Roth (5,617,491), and claims 1-3, 15-17, 20, 42, 43, 53, and 54 were rejected under 35 U.S.C. 102(e) as being anticipated by Silver et al. (6,408,109). Further, claims 4-14, 18, 19, and 44-47 were objected to as being dependent upon a rejected base claim, but the Office Action stated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 2, 3, and 54 have been cancelled, and so the rejection of those claims is moot.

Amended claim 1 recites:

1. (Currently Amended) A computer-implemented method for curve fitting, the method comprising:
   a) receiving a plurality of data points;
   b) generating a curve based on two or more random points of the plurality of data points;

c) testing the curve against a first subset of the plurality of data points, wherein said testing produces first test results;

d) performing (b) and (c) a plurality of times to determine a curve which meets first criteria, wherein said performing (b) and (c) a plurality of times comprises performing (b) and (c) in an iterative manner until ending criteria are met; and

e) if said first test results meet first criteria, outputting information regarding the curve.

Regarding the claims rejected with respect to Roth, the Office Action asserts that Roth describes "if said first test results meet first criteria...regarding the curve", citing the Abstract, Figure 4d, and col. 2, lines 55-57 (Applicant assumes that the quoted ellipses indicates "outputting information"). Applicant respectfully disagrees. In none of the cited material does Roth describe or suggest conditional output of information regarding the curve.

Applicant notes that this particular limitation was cited in making the restriction requirement between claims 1 and 21. More specifically, the Office Action stated that since claim 21 did not specifically include this limitation, that the invention represented by claim 1 is patentably distinct from that of claim 21. Applicant suggests that by the same reasoning, since Roth neither teaches nor suggests the limitation, that for at least the same reasons, the invention represented by claim 1 is patentably distinct from that of Roth.

Applicant submits that since amended claim 1 includes the limitations of claims 2 and 3 (both now cancelled), and since claim 3 was not rejected as being anticipated by Roth, that the invention described in amended claim 1 is patentably distinct over Roth. Similarly, independent claims 42 and 53 contain similar limitations as claim 1, and so are patentably distinct from Roth for at least these reasons. Applicant further submits that since claims 15-17 depend from claim 1, those claims are also patentably distinct from Roth. Similarly, claim 43 depends from amended claim 42, and so is patentably distinct from Roth.

Applicant is perplexed by the rejections based on the Silver reference. The Office Action asserts that Silver discloses "receiving a plurality of data points" and "generating a curve based on two or more random points of the plurality of data points." Applicant respectfully disagrees.

In the Abstract of Silver the method is described as including:

"...estimating gradient magnitude and direction at a plurality of regularly-spaced pixel points in the image so as to provide a plurality of estimates of gradient magnitude and direction, each such estimate being associated with a respective gradient point of a regularly-spaced gradient grid; using gradient direction associated with each gradient point to select a respective set of neighboring gradient points; comparing gradient magnitude associated with each gradient point with each gradient magnitude of the respective set of neighboring gradient magnitudes so as to determine which of the gradient magnitudes is a local maximum in approximately the gradient direction; and using the local maximum of gradient magnitude and a set of neighboring gradient magnitudes to determine an interpolated edge position along a one-dimensional gradient magnitude profile."

Thus, Silver estimates gradient magnitudes and directions for a number of regularly-spaced pixel points in an image, and generates a line based on a local maximum gradient magnitude (and its direction) and a set of neighboring gradients, and specifically does not "generate a curve based on two or more random points". In fact, Silver does not refer at all to random selection of points. Additionally, Applicant was not able to find the feature "if first test results meet first criteria, outputting information regarding the curve", in the cited passages and figure.

Moreover, as described in Silver's independent claim, the system of Silver includes: a gradient estimator (for estimating gradient magnitude and direction), a peak detector (for determining local gradient maxima), and a sub-pixel interpolator (for determining an interpolated edge position along a one-dimensional gradient magnitude profile). Applicant notes that the present invention does not estimate gradients, nor does the present invention use gradient estimates to determine a curve.

Applicant thus respectfully submits that Silver neither teaches nor suggests the features of Applicant's invention, and so independent claims 1, 42, and 53 are patentablty

distinct over Silver. Similarly, claims 15-17, and 20, and claim 43, are dependent respectively from claims 1 and 42, and so are allowable for at least the reasons provided above.

Applicant thus submits that neither Roth nor Silver, either singly or in combination, teaches or suggests Applicant's invention, and so Applicant respectfully submits that claims 1, 15-17, 20, 42, 43, and 53 are allowable for at least the reasons provided above.

Applicant has added new claims 64-83 that include the limitations of the independent claims and further include limitations of the respective claims that were objected to as dependent upon rejected base claims, but which the Office Action stated would be allowable if written in independent form, including the limitations of any intervening claims. Thus, Applicant submits that new claims 64-83 are allowable.

Double Patenting Rejection

Claim 20 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of co-pending Application No. 09/894,272. Applicant includes herewith a terminal disclaimer to overcome the obviousness type double patenting rejection in view of Application Serial No. 09/894,272.

CONCLUSION

In light of the foregoing amendments and remarks, Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-52200/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

Respectfully submitted,

Jeffrey C. Hood
Reg. No. 35,198
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert & Goetzel PC
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8800
Date: ___9/29/2003___